Brock University

Displaying X,Y Data

This procedure outlines the steps necessary to create points from a simple text file containing latitude and longitude coordinates. The ideal file formats for this exercise include CSV or XLS (old version of Excel).

The sample data used in this exercise can be downloaded from www.brocku.ca/maplibrary/Instruction/Displaying_xy_data.zip. **Unzip** the data before continuing.

The original data in this example is an Excel file with latitude and longitude coordinates in decimal degrees.

1. Run **ArcMap** and create a new document.

2. Click the **Add Data** button ➕.

Sheet1$	
X	**Y**
-79.235444	43.207055
-79.261247	43.191196
-79.205194	43.149254
-79.207431	43.147622
-79.215648	43.15465

In order to see directories, a 'folder connection' needs to be established.

3. Click the Connect to Folder button 📁 . Navigate to the **Displaying_xy_data** folder and click **OK.**

4. Double-click **XY_Coordinates.xls,** select **Sheet1$** and click **Add**.

5. The table is added to the *Table of Contents* on the left of the ArcMap window. Right-click on the table and select "**Open**" to view the data. Notice the **X** and **Y** columns representing Latitude and Longitude values. Close the table by clicking the **X** in the upper-right corner.

To create points:

6. Add a street network layer for reference purposes by clicking the **Add Data** ➕ button. Select **Roads** (from the **Displaying_xy_data** folder) and click **Add**.

7. Right-click on the table (Sheet1$) listed in the *Table of Contents* and select **Display XY data...**

8. In the dialogue box, ensure the *X Field* indicates **X** and the *Y Field* indicates **Y**. If the indicated fields are incorrect, use the drop-down menu to select the correct values.

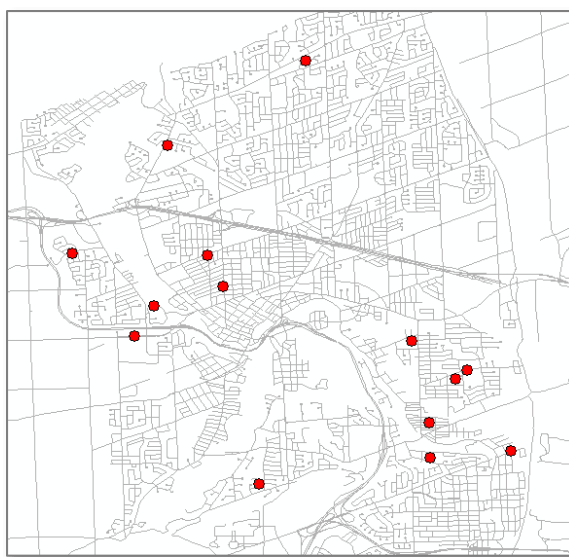**TIP for future use: See the following table for a summary of X, Y formats.**

Latitude	43 degrees	UTM-Y	4,763,000 metres N
Longitude	-79 degrees	UTM-X	623,000 metres E

9. Under *Coordinate System of Input Coordinates*, click the **Edit…** button to define the Geographic coordinate system of the XY values. In this example, from the *Spatial Reference Properties* dialogue box, click each *folder* in the following path, until you get to the projection file "**GCS_North_American_1983**".

    Geographic Coordinate Systems > North America > NAD 1983

10. Click **OK**.

11. The *Display XY Data* dialogue box is now complete. Click **OK**.

12. A message box will appear stating that the table does not have an Object-ID field. Click **OK.**

The XY data is displayed in the map window.

13. This point data file is called an "event" file. To make a permanent shape file, right-click on the point data layer **Sheet1$ Events** and choose **Data > Export Data.** Click the **Browse** button and navigate to the folder in which you wish to save the file. Ensure the *Save as type:* is **Shapefile** and click **Save.** Accept the rest of the defaults and click **OK**.

14. When prompted to add the exported data to the map as a layer, click **Yes**. The point file is now a permanent shape file.